



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,083	09/30/2003	Fang Xu	1765-US	5106
24313	7590	05/31/2005	EXAMINER	
TERADYNE, INC 321 HARRISON AVE BOSTON, MA 02118			PATEL, PARESH H	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/675,083

Applicant(s)

XU, FANG

Examiner

Paresh Patel

Art Unit

2829

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 2-7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date: _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>09/03, 04/05</u>  | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

1. Applicant's election with traverse of species 4A using fig. 3A-3B (claims 1-9) in the reply filed on 03/17/2005 is acknowledged. The traversal is on the ground(s) that claim 1 symbolized in fig. 3C and fig. 4A-4C includes plurality of them. This is not found persuasive because claim 1 is not generic. However, to expedite the prosecution Examiner examines claim 1 and depend claims 2-9 because they do read on fig. 4B.
2. Claims 10-20 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 03/17/2005.

### ***Allowable Subject Matter***

3. Claims 2-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
4. The following is a statement of reasons for the indication of allowable subject matter: No prior art has been found to meet the limitations of claims 2-7 calling for a switching topology for automatic test equipment, comprising a plurality of switching circuits, each of the plurality of switching circuits comprises first and second switching

elements each having a common point and first and second connection points to which the common point is selectively connectable, as further defined at claim 2.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Henrion et al. (US 5237565).

Regarding claim 1, Henrion et al. (hereafter Henrion) in fig. 11 discloses a switching topology for automatic test equipment, comprising:

a plurality of switching circuits [TSUi1-128, PS1-16, TSUo1-128] each having first through fourth nodes [inputs for TSUi1 e.g. pi1 and pi64 and outputs at Asi1 and Asi4], wherein the first and second nodes [e.g. pi1 and pi64] are connectable to the third and fourth nodes respectively, to form a THROUGH connection [see connection between Tsi1 and ASi1, and Tsi16 and Asi4], or to the fourth and third nodes respectively, to form a CROSSED connection [see the connection between Tsi1 and Asi4, and Tsi16 and Asi1], wherein each of the first through fourth nodes of any [e.g. nodes of PS1] of the plurality of switching circuits is connected to at most [e.g. TSUi1-128 on one side and TSUo1-128 on other side of PS1] one of the first through fourth nodes of all the others of the plurality of switching circuits.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi (JP 56117495).

Regarding claim 1, Kobayashi discloses all the elements of the claimed invention including a plurality of switching circuits [PSO, SSO, TSO] each having first through fourth nodes [po-pn and to-tn], a THROUGH connection and a CROSSED connection as claimed.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henrion as applied to claim 1 above, and further in view of Minners (US 6236300).

Regarding claim 8, Henrion discloses all the elements except for the switching circuits are implemented with micro-machined switches. However, Henrion discloses switching element as stated above to transfer a data received at its inlets to one or more of its outlet in a network environment. Minners discloses micro-machined switches [see title] that is smaller, more reliable, durable, functional, and cost efficient. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the

Art Unit: 2829

invention was made to replace switching element of Henrion with micro-machined switches as taught by Minners to obtain above mention advantage.

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henrion as applied to claim 1 above, and further in view of Russell et al. (US 6084873).

Regarding claim 9, Henrion discloses all the elements except for the switching circuits are implemented with solid-state switches. However, Henrion discloses switching element as stated above to transfer a data received at its inlets to one or more of its outlet in a network environment. Solid state switches are well known and commonly used today in many different applications. Russell et al. (hereafter Russell) at lines 61-67 of column 10 discloses solid state switches to obtain advantage over interference. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace switching element of Henrion with solid state switch as taught by Russell, in order to overcome interference.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paresh Patel whose telephone number is 571-272-1968. The examiner can normally be reached on 8:00 to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 571-272-2034. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2829

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



May 18, 2005

Paresh Patel  
Primary Examiner  
Art Unit 2829